

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A radiation-emitting semiconductor component comprising:
a semiconductor body that includes a first principal surface, a second principal surface and an epitaxially formed semiconductor layer sequence with an electromagnetic radiation generating active zone, said epitaxially formed semiconductor layer sequence forming the semiconductor body and being disposed between the first and the second principal surfaces;
a carrier supporting the semiconductor body;
a first non-epitaxially formed current spreading layer disposed on said first principal surface and positioned between the semiconductor body and the carrier, and electrically conductively connected to said semiconductor layer sequence;
a second non-epitaxially formed current spreading layer disposed on said second principal surface and electrically conductively connected to said semiconductor layer sequence;
and
a mirror layer disposed on a side of the first current spreading layer that faces away from the semiconductor layer sequence,
wherein the first current spreading layer comprises a first material and the second current spreading layer comprises a second material different from the first material, and
at least one of said two principal surfaces comprising said current spreading layers has a microstructure.
2. Canceled.

3. (Previously Presented) The radiation-emitting semiconductor component as in claim 1, wherein at least one of said current spreading layers contains a material that is transparent to the generated radiation.

4. (Currently Amended) The radiation-emitting semiconductor component as in claim [[2]] 1, wherein both current spreading layers contain a material that is transparent to the generated radiation.

5. (Previously Presented) The radiation-emitting semiconductor component as in claim 3, wherein-said radiation-transparent material contains an oxide.

6. (Previously Presented) The radiation-emitting semiconductor component as in claim 5, wherein said oxide is a metal oxide.

7. (Previously Presented) The radiation-emitting semiconductor component as in claim 3, wherein said radiation-transparent material contains ITO and/or InO.

8. (Previously Presented) The radiation-emitting semiconductor component as in claim 3, wherein-said radiation-transparent material contains ZnO.

9. (Previously Presented) The radiation-emitting semiconductor component as in claim 3, wherein said radiation-transparent material contains SnO.

10. (Previously Presented) The radiation-emitting semiconductor component as in claim 1, wherein at least one of said current spreading layers contains Al, Ga, In, Ce, Sb and/or F.

11-12. Canceled.

13. (Currently Amended) A radiation-emitting semiconductor component comprising:

a semiconductor body that includes a first principal surface, a second principal surface and an epitaxially formed semiconductor layer sequence with an electromagnetic radiation generating active zone, said epitaxially formed semiconductor layer sequence forming the semiconductor body and being disposed between the first and the second principal surfaces;

a carrier supporting the semiconductor body;

a first non-epitaxially formed current spreading layer disposed on said first principal surface and positioned between the semiconductor body and the carrier, and electrically conductively connected to said semiconductor layer sequence;

a second non-epitaxially formed current spreading layer disposed on said second principal surface and electrically conductively connected to said semiconductor layer sequence; and

a mirror layer disposed on a side of the first current spreading layer that faces away from the semiconductor layer sequence,

wherein the first current spreading layer comprises a first material and the second current spreading layer comprises a second material different from the first material, and The radiation-emitting semiconductor component as in claim 11, wherein said mirror layer is electrically conductive.

14. (Currently Amended) The radiation-emitting semiconductor component as in claim [[11]] 13, wherein said mirror layer contains a metal.

15. (Currently Amended) The radiation-emitting semiconductor component as in claim [[11]] 13, wherein said mirror layer contains Au, Ag, Al and/or Pt.

16. (Currently Amended) The radiation-emitting semiconductor component as in claim [[11]] 13, wherein said principal surface has a microstructure on the side of said semiconductor layer sequence facing away from said mirror layer.

17. (Previously Presented) The radiation-emitting semiconductor component as in claim 1, wherein said semiconductor layer sequence contains at least one n- and/or p-conductive layer.

18. (Previously Presented) The radiation-emitting semiconductor component as in claim 17, wherein the thickness of said n-conductive and/or said p-conductive layer is in the range of a monolayer to 1000 nm.

19. (Previously Presented) The radiation-emitting semiconductor component as in claim 17 wherein the current spreading layer on the side comprising the p-conductive layer of the semiconductor layer sequence contains ZnO.

20. (Previously Presented) The radiation-emitting semiconductor component as in claim 17, wherein the current spreading layer on the side comprising the n-conductive layer of the semiconductor layer sequence contains SnO.

21. Canceled.

22. (Previously Presented) The radiation-emitting semiconductor component as in claim 1, wherein said carrier contains GaAs.

23. (Previously Presented) The radiation-emitting semiconductor component as in claim 1, wherein said radiation-emitting semiconductor component is affixed to said carrier by means of a solder metallization.

24. (Currently Amended) The radiation-emitting semiconductor component as in claim 1, wherein a solder metallization is disposed on said mirror layer to affix said radiation-emitting semiconductor component to [[a]] said carrier.

25. (Previously Presented) The radiation-emitting semiconductor component as in claim 1, wherein disposed on at least one of the first current spreading layer and the second current spreading layer is a contact surface for electrical contacting.

26. (Previously Presented) The radiation-emitting semiconductor component as in claim 25, wherein said contact surface is disposed on the side of said semiconductor layer sequence opposite to said carrier.
27. (Previously Presented) The radiation-emitting semiconductor component as in claim 25, wherein said contact surface has on the side facing said semiconductor layer sequence a layer that reflects the generated radiation.
28. (Previously Presented) The radiation-emitting semiconductor component as in claim 1, wherein at least one of said current spreading layers comprises a recess.
29. (Previously Presented) The radiation-emitting semiconductor component as in claim 28, wherein disposed in said recess is an electrically conductive contact surface.
30. (Previously Presented) The radiation-emitting semiconductor component as in claim 29, wherein the electrical contacting of said radiation-emitting semiconductor component takes place via said contact surface.
31. (Previously Presented) The radiation-emitting semiconductor component as in claim 30, wherein disposed on the side of said current spreading layer facing said semiconductor layer sequence and provided with said recess and said contact surface is a jacket layer or a jacket layer sequence.
32. (Previously Presented) The radiation-emitting semiconductor component as in claim 31, wherein said jacket layer or jacket layer sequence is poorly electrically conductive with respect to said contact surface, such that the current partially flows into said current spreading layer.
33. (Previously Presented) The radiation-emitting semiconductor component as in claim 1, wherein said semiconductor layer sequence contains a III/V semiconductor, preferably

In_xGa_yAl_{1-x-y}P, where 0 ≤ x ≤ 1, 0 ≤ y ≤ 1 and x + y ≤ 1, In_xGa_yAl_{1-x-y}N, where 0 ≤ x ≤ 1, 0 ≤ y ≤ 1 and x + y ≤ 1, or In_xGa_yAl_{1-x-y}As, where 0 ≤ x ≤ 1, 0 ≤ y ≤ 1 and x + y ≤ 1.

34. (Previously Presented) The radiation-emitting semiconductor component as in claim 1, wherein said first current spreading layer contains ZnO and on the side nearest said semiconductor body adjoins a p-conductive AlGaAs-containing layer.

35-41. Canceled.

42. (Previously Presented) The radiation-emitting semiconductor component as in claim 18, wherein the thickness of said n-conductive and/or said p-conductive layer is less than 400 nm.

43. (Previously Presented) The radiation-emitting semiconductor component as in claim 42, wherein the thickness of said n-conductive and/or said p-conductive layer is between 150 nm and 400 nm.

44. (Previously Presented) The radiation-emitting semiconductor component as in claim 17, wherein the current spreading layer on the side comprising the n-conductive layer of the semiconductor layer sequence contains SnO and Sb.

45. (Previously Presented) The radiation-emitting semiconductor component as in claim 1, wherein the first current spreading layer and the second current spreading layer contain an oxide.

46. Canceled.

47. (Previously Presented) The radiation-emitting semiconductor component as in claim 1, wherein the first current spreading layer and the second current spreading layer are sputtered layers.

48. (Previously Presented) The radiation-emitting semiconductor component as in claim 1 comprising a lattice mismatch at the first principal surface between the epitaxially formed semiconductor layer sequence and the first non-epitaxially formed current spreading layer, and further comprising a lattice mismatch at the second principal surface between the epitaxially formed semiconductor layer sequence and the second non-epitaxially formed current spreading layer.

49. (Previously Presented) A radiation-emitting semiconductor component comprising:
a semiconductor body that includes a first principal surface, a second principal surface and an epitaxially formed semiconductor layer sequence with an electromagnetic radiation generating active zone, said epitaxially formed semiconductor layer sequence forming the semiconductor body and being disposed between the first and the second principal surfaces;
a carrier supporting the semiconductor body;
a first non-epitaxially formed metal oxide current spreading layer disposed on said first principal surface and positioned between the semiconductor body and the carrier, and electrically conductively connected to said semiconductor layer sequence;
a second non-epitaxially formed metal oxide current spreading layer disposed on said second principal surface and electrically conductively connected to said semiconductor layer sequence; and
a mirror layer disposed on a side of the first current spreading layer that faces away from the semiconductor layer sequence,
wherein the first current spreading layer comprises a first material and the second current spreading layer comprises a second material different from the first material.

50. (Previously Presented) The radiation-emitting semiconductor component as in claim 1, wherein the first current spreading layer contains ZnO and the second current spreading layer contains SnO.

51. (Previously Presented) The radiation-emitting semiconductor component as in claim 49, wherein the first current spreading layer contains ZnO and the second current spreading layer contains SnO.

52. Canceled.